

A COMMERCIAL PERSPECTIVE

February

by Charles Linder

Here we are in February again! Time for almonds! Where does the time go? Last fall we were honored to have Dr. Jamie Ellis at our state meeting here in Illinois, and as always, he was a great speaker. He made an observation about presenting that was new to me, but interesting. I study negotiations and influence on a regular basis; I am slightly fascinated about how little things can change relationships and perceptions. Not saying I am good at it, but I do study it. Anyway, Dr. Ellis mentioned that he found out that there is a small percentage of people who absolutely have to know some little personal things about you before they can get engaged in your presentation. I found that interesting — peculiar, but interesting ...

So here is my tidbit: I have mentioned we raise some chickens but my favorites are the geese. We have about 40 at the house, and here at my shop we have 11 now. If you come to visit or call there is a good chance you will hear them or even get to meet the flock. The ones here at the shop are hand tame, as I raised them from babies, and they love to talk to me. I originally brought them here so I could babysit them as they grew, with every intention of butchering them. After a month or two they figured out how to escape my gosling pen, and it wasn't long before they were playing in the road ditch in front of the shop. It sets full of water and it's goose heaven.

Here is the interesting part, the shop is on a corner with a dead end and a stop sign T intersection. The first year we were here, no one stopped, heck most didn't even slow down. The entire community was in a habit of running the stop sign as it never has traffic. It had me freaking out. We had the right of way, but no one ever cared despite big trucks with bees. Enter the geese! It seems with the geese

constantly in the road, people started stopping and driving slower. Human habits saved these geese when I realized one fender bender would cost a lot more than the geese were worth as meat. I now raise geese as traffic control.

Humans baffling me actually goes back to why I study people and negotiations. The human nature that makes you stop for a goose, but not an intersection, is an example.

The truth is, people baffle the snot out of me. I can tell you the science behind the 911 tower collapse, or the Tacoma Narrows bridge failure, but understanding how a person blames his tools for failure baffles me to no end. Why do we have trouble getting a bill for the standard of honey passed? Why can we not get our national organizations to address EPA issues? Why do most beekeepers not even hesitate at off-label pesticides? How did we decide in many states that pot should be legal, but cigarettes kill?? And the key question on this topic, how the heck did we go from owner's manuals in cars telling you how to adjust valves, to warning labels "Don't drink the battery acid"??? You're laughing, I hope, because you know it is true. These are things that I scratch my head on and have to read others' work to comprehend.

Which brings me to our industry and its approach.

I have been pondering our industry overall for quite a while. We are small in relativity so it's a bit easier to grasp some of the realities. This month I would like to talk about one of our innovators. When I say innovators, I refer to a lot of different new ideas, from BeeHero and Beewise, to probiotics and foam hives. All of these ideas have pluses and minuses and will find their niche in the industry on their own.

The one I find fascinating is the new vaccine from Dalan. For those

not aware, Dalan Health has come up with a way to vaccinate queens for American foulbrood. The latest reports also show a huge reduction in the expression of deformed wing virus as a plus. The basic system involves feeding the queen and her attendants inoculated candy for a set time period before she is released into the hive.

So, vaccinate for AFB, get a DWV kicker, and upregulate the immune capabilities of your bees. It seems to me to be worth a shot.

For this discussion I am not planning on getting into the nuts and bolts of the vaccine, but the politics. We as beekeepers clamor for industry help, constantly scouring research and papers looking for an edge, funding far-out research in the hopes of some miracle.

And boom, here it is! A true industry breakthrough! In our industry in particular we don't have vaccines; we don't have much in medicines that are targeted specifically for bees. Heck, even antibiotics are spotty in what they target. I know from real-world losses at staggering levels that we have no solutions except time for most bacterial and viral outbreaks.

Along comes Dalan, and on their own dime and ingenuity they come up with an idea, develop it at a very high cost, get it approved, also at a very high cost, and get it to market. Thank you very much!

But here is the quandary: Many people are saying, well AFB is not really a problem for me, and it costs \$10 a hive. Queen breeders in particular seem to be slow on the uptake, and of course with the huge majority of queens used in the U.S. coming from breeders, the effect is severely limiting the availability.

Many would say, "So what? AFB is not an issue." While that is correct for many, it misses the much bigger point, and that is innovation,

and what it may mean for us downstream. While most of us would willingly donate for research projects to solve virus problems, how many of us are trying these queens? (Any of your regular queen breeders can use them so you can stick with your favorite genetics.) If each of us as beekeepers just tried one, then Dalan would be incentivized to work on the next virus problem on the list. This is the type of industry support we need to get behind. Some might refer to it as crowdfunding, but the reality is, it is supporting their product.

This is important because, as I understand it, Dalan is looking at other industries as well, such as shrimp. If we as an industry do not support profitability in products, then that brainpower and speculation goes elsewhere very fast. My bet, a lot more money in the shrimp industry than bees. I hate to lose that brainpower and R&D to another industry, especially when it's based around just not thinking clearly.

Personally, I am really tired of the next new bee app, tracking tag, or robotic gizmo, and really keen on things that improve bee health. I for one will be trying a bunch; the potential upside for our industry and our bees is huge. I set my target at 10% of my queens next year. If we all tried a 10% experiment, that would mean two things: First, we as an industry would know really quickly if it works as we hope. That is a lot of trials, and secondly Dalan would be encouraged for their work so far. Sink or swim, it's worth a shot to me.

Imagine a bee industry where you actually had a vaccine for the viruses that are wiping us out. This is exactly the type of livestock health support we need; it is up to us to at least give it a fair shot and support it. While AFB may not be your huckleberry, the next one in the pipeline just may be the one that is hitting you the hardest. With the current annual loss survey data coming out at 50%, it seems to me it sure as heck is worth a shot.

Which brings me to another peculiarity of our industry. I have mentioned before that most of my background comes from other than beekeeping, so I am a bit of an outsider (some say troublemaker). This was brought home to me at one of the recent conventions. At one of the lunch banquets I sat down next to a guy and introduced myself; he was seated alone at that point and I wanted to be friendly. Turns out he knew of me,

and apparently wasn't a fan. Despite that, we had a nice conversation,=: I was of course quizzing him on why he viewed me as a troublemaker?

His answer was straight to the point. Seems he felt we should not be discussing miticides with the EPA. Seems a rumor had gotten to him that I wrote something to the EPA that would encourage enforcement. I listened politely and we had a good discussion. No, I didn't change his view, didn't even try. It seems we have quite a few in this industry who actually believe we are flying under the radar, including people in leadership roles. The key is we are all entitled to our opinions. While it baffles the snot out of me how leaders can believe in trying to bypass the rules, they are entitled to have that viewpoint. It's up to us as an industry to remove them.

But back to the lunch. Here is what I find peculiar, he was convinced I had written here in ABJ about off-label uses. The problem is, I have not. Besides the obvious rumor spreading, what puzzles me is the industry in general. Just recently I and some others have been working on a border issue with Canada. We had a meeting with USDA and APHIS people. Both organizations showed up in full force to help us. What is peculiar and fascinating is that even though there have been people working on this issue, no one has, at least in recent history, asked APHIS for help before — 30+ years of opportunity to strengthen the industry just kind of missed. But rest assured, they are on this full force right now. Really fun to see such enthusiasm. Our industry challenge is to get better at these relationships and maintain them. Our current system is not working quite so hot, but there is a bit of progress being made behind the scenes. More on that coming soon.

This same applies for our current issue with the EPA (the difficulty in new approvals and using generic organics). We seemingly have an industry of people who are simply afraid to tackle the problem. How did we get to the point where we are afraid of working with the government? I do not think for one second the EPA is against us, but the rules sure are set that way.

While it makes me simply question our industry as a whole that we do not have a direct liaison, I am starting to see that this is commonly the problem for us. We are such a small group, and despite the fantastic efforts of a few volunteers, we are not adequately represented on hardly any level.

Important update:

Many are aware that Randy Oliver and I have been proposing a change to FIFRA that would hopefully improve the process specifically for the beekeeping industry. Several of you have written letters or had your groups write in support. Rest assured we have been working. Our original plan was to try to get it in the Farm Bill, and unfortunately our national organizations have been either busy with other projects, or uninterested. If you add in the turmoil with the election, Farm Bill status, and ineffective lobbying, it has been a roller coaster of progress. As such it's been a campaign of spare time and personal contacts.

That aside, we did get a huge win here in December. For those not aware, my home state of Illinois is the home of Farm Bureau, and we have a good friend on the board who is a beekeeper also, Phil Raines out of Rockford. Phil has managed to get our legislative ask on the Farm Bureau agenda at the state level for sure, and I hope by the time you read this the national has picked it up also. This is a huge win for the industry — building a partnership that may provide us with legislative help we have not had in a long time.

Go Phil!

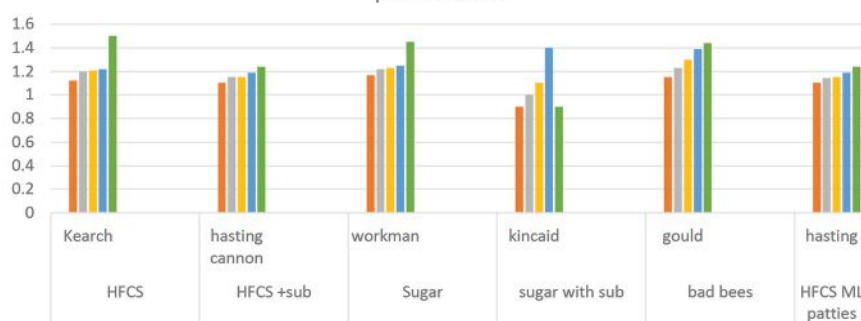
A POLLEN SUB TEST

The final thought for this month is on the interesting lessons and data collected this season. In our plans and practices, we do practice feedback. Our goal is to not find a routine that works, but in fact figure out how to be better every season, and we actually have discussions on how to do that on a regular basis.

I reported earlier this year about adding some pollen sub to our feed — 2 tablespoons per quart to be exact, which worked out to 2.5 gallons for a 275-gallon tote. That trial was done in July; four weeks of feed with pollen sub showed quite clearly a 25% increase in brood production, which was two full frames more of August bees. This was done two times so I am quite sure of the increase being real, and not a fluke.

Well of course I told friends and many have been testing it out for

Bee weights (in grams)
per 10 bees



	HFCS	HFCS + sub	Sugar	Sugar with sub	HFCS + Mann Lake bulk
Starting hive count	121	106	119	116	106
Average frames of brood	2.78	1.75	1.41	1.48	1.27
Hives with 10+ frames bees	33	41	70	54	75
Percentage making grade	27.3%	38.7%	58.8%	46.6%	70.8%

themselves. One even mentioned, hey wouldn't it be great if we could get rid of pollen patties altogether and just feed protein in the syrup! That thought had not occurred to me yet at that point, but it is a valid thought. We all know patties are a lot of work, a lot of logistics, and SHB magnets, and in the end are mostly just sugar anyway.

I was careful to caution anyone, this was a summer trial, so results may vary.

This brings me to the fall testing and experiment in which we repeated the summer trial with the addition of types of sugars. For years I have been hearing from certain people that high fructose corn syrup (HFCS) kills bees and sucrose is the answer, but unfortunately sucrose is really hard to get in bulk where I live. As a result, we feed HFCS most of the time, with batches of sucrose when we can get it.

(For the record, all the reports I have of HFCS killing bees seem to trace back to a couple of contaminated batches sold 15-20 years ago.)

This summer I managed to score a couple truckloads of sugar for a reasonable price, so this fall's trials were set up: HFCS with pollen sub, HFCS plain, sucrose with pollen sub, sucrose plain, and sucrose with pollen patties. The test yards were all about equal size and health when started, mite counts similar, and all had the same history in melons. The numbers of hives in the yards were 121, 106, 119, 116 and 106 respectively.

Each yard got the same number of feedings and all were within 5 miles of each other. It should also be noted for information, we had severe drought, with zero fall flow this year. Both pollen and nectar were completely deficient. In hindsight, I think this was a big problem in making this a fair evaluation.

At the end we checked a couple things: colony strength and brood, as well as bee weight, and lastly how many hives in the yard made grade for almonds. The plan is/was to follow them all the way until spring to ensure there are no late-season hiccups from the feeding plan.

I should add, bee weight was added as my virus guy keeps telling me it's the key metric of bee health. Fat bees = healthy bees. It sounds great but it turns out it's a darn site more complicated than that.

We also have mite loads for these bees, and those numbers are a bit weird also.

So, que the drumroll ... the results? Insane and baffling! So far zero correlation.

As you can see, there are no winners or losers, the average weights falling well within the hive-to-hive variations. If anything, the really bad bees we had with high mite loads were the heaviest group, even with one of those having a mite count of 90! The standard deviation within yards is bigger than the total standard deviation.

What is missing here is some correlation to feed types vs. bee weights. So, let's talk about brood and number of hives that made grade. Maybe that would paint a picture that made sense.

So, this one is bizarre, the yard that had the most hives make grade had the lowest amount of brood. The yard with the most brood had the least that made grade. The hives with HFCS had higher amounts of brood than the sugar, but when you add in the ML patties, that theory is shot also. Bottom line so far, a whole lot of work tells me nothing I can see just yet. The plain HFCS had the lowest that made grade, but the highest brood by over 40%! One might surmise the two with HFCS had the lowest that made grade, but then the yard with the ML patties came in and ruined that theory. Did late-season bulk pollen patties make the difference? Or was there more at play here? I will try to continue to follow all of these hives until almonds.

And to add insult to injury, I told a couple of friends about adding pollen sub, two of whom waited until October to try it. Both claim remarkable improvements in brood production. I can only surmise that it may not be the protein level in the syrup, but rather the CHANGE in levels of incoming proteins that are stimulating brood. So what I am trying to wrap my head around, is if we had stopped adding sub to the food, and then added it the last month or so, would we have gotten the spike we wanted? Or was the total lack of pollen outside a big factor in the overall testing?

In discussions with people way smarter than me, the next step was to get virus loads on these test yards — the theory being that the bees with protein added would have lower virus levels. Well, that turned out to be a wash also. Despite the theory, overall the hives with no protein in the feed had slightly lower virus levels. I say slightly because overall my virus levels are pretty good this fall. Back to the drawing board.

Charles Linder is a commercial beekeeper running bees for honey and pollination in the Midwest. He is a semi-retired Manufacturing Engineer and spent the last 12 years of that career with CNH, building combines and harvesting crops worldwide. He has lived on farms all his life, and is still involved with day-to-day operations of growers and farmers. Email Charles at gm_charlie@frontier.com.